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ABSTRACT

This document contains a literature review and a discussion of issues concerned with the locus of control dimension in psychological experimentation over the past 15 years. Locus of control research is traced from the early laboratory experiments which demonstrated that instructions and perceptions about skill and chance could dramatically affect subjects' performance, to field research investigating whether individuals carry generalized expectancies about the control of reinforcement. The paper focuses on three specific areas that are emerging in the research and have implications for further understanding of expectancies about locus of control and behavior in general. (1) The first topic is the relationship between belief in internal control and physical health. In general, "internals" have been found to be most likely to take preventive measures to stay healthy. (2) The second area has to do with the relationship between internal control and emotional well-being. Results have been quite similar to the studies dealing with physical health. (3) The final topic concerns perceived power and personal competence. However, little research evidence is available on this topic. (DP)

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Locus of Control: Where Have We Been and Where Are We Going?[1]

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When Jerry Phares (1957) began to prepare his gray paint samples and Bill James (James and Rotter, 1958) built his card-guessing apparatus, they likely had little idea of the impact of their skill versus chance research some fifteen years later. Under the direction of Julian Rotter and with the advice and help of a number of Ohio State faculty and graduate students, research on generalized expectancy about behavior-reinforcement contingencies began in the late fifties and has continued unabated until the present. Numerous reviews (Joe, 1971; Lefcourt, 1966, 1972; Rotter, 1966; Throop & MacDonald, 1971) and countless publications across almost every conceivable subject population attest to the impact of the internal-external locus of control dimension in psychological experimentation.

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The early work of Phares (1957) began in the psychology laboratory when he was able to demonstrate that a subject's perception of control was related to expectancy of success or failure in a judgment task. Under perceived skill conditions, subjects responded to a past experience of success or failure by appropriately wagering bets on their next judgment. Subjects given

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chance instructions were more likely to adopt a "gambler's" stance as if indeed their success was dependent on luck. James & Rotter (1958) also found that varying instructions as to whether a task was considered skill or chance influenced extinction trials with subjects in the chance condition showing the usual greater resistance to extinction in a partial reinforcement condition but a reversal of this effect in the 100% skill condition. In his doctoral research, James (1957) found differences between skill and chance groups in acquisition of expectancies and significantly greater generalization of expectancies from one task to another under skill instructions in contrast to chance instructions. Other studies conducted by Bennion (1961), Blackman (1962), Holden & Rotter (1962), and Rotter, Liverant & Crowne (1961) likewise demonstrated the importance of subject expectancy about response-reinforcement upon learning and perceptual tasks. The impact of these early studies, while perhaps not recognized then or even now, has to do with the demonstration that what a person is led to believe about the locus of control of reinforcement has a definite impact on his behavior.

If, indeed, instructions or perceptions about skill and chance could so dramatically affect performance, then a logical next step was to consider whether persons ordinarily carry with them a generalized expectancy about control of reinforcement. It seemed reasonable to assume that persons who believe that the events that occur in their life are contingent on their behavior or under their personal control and understanding would act differently than persons who were more likely to believe that life events were

dependent on powerful others or were a result of fate, luck, or chance. To this end, a number of early assessment instruments were devised and investigators began to identify subjects as believing in internal versus external control of reinforcement. Again in the psychological laboratory, Gore (1962), Getter (1966), and Strickland (1970) found that "internals" were more resistant to subtle attempts to control them than were "externals." Lefcourt and his colleagues (Lefcourt, 1967; Lefcourt, Lewis & Silverman, 1968; Lefcourt & Wine, 1969; Lefcourt & Siegel, 1970) also found that internals were unresponsive to experimenter's manipulations while externals more readily followed task directions. The work inside the ivory tower was consistently supported by research in the field with investigations collecting data in hospitals, schools, prisons, and even in the streets. Seeman and his colleagues were able to show that internals were more likely to attempt to better their life situations than were externals. For example, tubercular patients assessed as internal knew more about their disease and questioned their health staff more often than externals (Seeman & Evans, 1962). Internal prisoners in contrast to matched external prisoners were more likely to remember information they had learned about prison regulations and parole (Seeman, 1963). Gore & Rotter (1963) and Strickland (1965) found internals more than externals likely to commit themselves to and actually engage in civil rights movements during the early 60's. Again these initial findings were indicative that the locus of control dimension appeared to be a pervasive expectancy variable related to a number of mastery behaviors. Generally, the research unfolded with strong implications

that an internal orientation was a healthy and positive attitude related to mastery and competence behaviors for both children (Strickland, 1972) and adults (Lefcourt (1972). Extensive research with the internal-external dimension has been conducted in achievement, competence, delay of gratification, cognitive activity, and defensiveness, all areas which have marked some of the more salient themes running through locus of control research and all of which along with selected problem areas, have been covered in exhaustive detail in other writings (Lefcourt, 1972).

The aim of the present paper is to point to three specific areas that seem to be emerging in the psychological literature in regard to expectancies about locus of control and suggest that these have significant and even dramatic implications for further understanding of human behavior. The first of these areas has to do with the relationship between a belief in internal control and physical health or well being. Generally, it appears that internals are more likely to take preventive measures to keep themselves healthy and free of disease or the possibility of accident. The second area is similar to the first but has to do with psychological well being. Considerable evidence is accumulating that externals are likely to be characterized as more severely emotionally disturbed than internals and some intriguing hypotheses about feelings of powerlessness and depression are emerging. Finally, the last area to be considered has less research evidence available but is a logical avenue of interest having to do with perceived power and personal competence.

While not surprising in view of the positive attributes usually

related to a belief in internal locus of control, an interesting theme running through locus of control research is the extent to which internals as opposed to externals appear to have more interest in and perhaps be more responsible for their physical health. As mentioned earlier, Seeman & Evans (1962) reported internal tubercular patients to know more about tuberculosis and to ask more health related questions than external patients. In terms of prevention of disease or accident, it appears that internals are more likely to engage in activities that facilitate physical well being. For example, James, Woodruff, & Werner (1965) replicated a finding by Straits & Secrest (1963) that nonsmokers were significantly more likely to be internal than smokers. They also found that following the Surgeon General's report on the dangers of smoking, smokers who were convinced by the evidence in the report were more internal than smokers who were not convinced and internal males were more likely than externals to quit smoking. Platt (1969) also found internals able to change smoking behaviors to a greater extent than externals. In a study of inoculations against influenza, Dabbs & Kirscht (1971) report that college subjects who were internal, according to eight selected "motivational" variables, were more likely than externals to have been inoculated although internals on eight selected "expectancy" items were more likely not to have taken the shots. These results are somewhat confusing in regard to the relationship between motivation to exert control and expectancy of control but do suggest that the locus of control variable is operating as one takes precautions against influenza. Williams (1972) found greater cigarette smoking among external

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ninth grade subjects, that internality was related to greater reported seat belt use and preventive dental care (1973). MacDonald & Hall (1971) questioned healthy college students as to how they would respond to various physical handicaps in regard to social relationships and feelings about themselves. Internals anticipated less severe consequences of handicaps than did externals perhaps reflecting the internal's belief that he can adapt to aversive life situations.

Does the prevention work for internals? Naditch (1973) considered data on over 400 black men and women in which subjects wer assessed as to internality/externality and relative contentment and discontent with one's life state. Additionally, each subject was coded for hypertension. Among highly discontented externals, the percentage of hypertension was 46.2, more than double the 21.3 percent rate for the total sample, and considerably greater than more contented externals or internals. Only 7.1 percent hypertension was found among the internal high discontent group. In a dissertation conducted by an Emory sociology student, Darrow (1973) found that among several hundred men that presented themselves to a Community Health Clinic for diagnosis and treatment of venereal disease, internal men were significantly less likely than externally oriented men to be infected with gonorrhea. No such results emerged for females, however, internal females were significantly more likely to return for followup treatment with the appearance of new symptoms than were external females. Darrow interprets this latter finding as being likely due to the tendencies of these women to notice physiological changes and to seek an explanation for the reappearance of symptoms after treatment.

Other emerging research supports the concern of the internal with influencing health care after diagnosis of disease, Weaver (1972) found that internal patients with severe kidney disorders who were using dialysis machines to stay alive were significantly more likely to comply with diet restrictions and to keep scheduled appointments more regularly than external patients. Johnson, Leventhal & Dabbs (1971) report that among 62 women patients who had received abdominal surgery, internality was related to ability to influence post-operative care, and, if they were first borns, internals had longer hospital stays than externals.

Locus of control expectancy is not only related to physical well being but considerable research evidence also suggests that a belief in external control is related to a number of reported and diagnosed psychological disturbances. Among normal subjects, researchers have found externality is related to debilitating although not to facilitating anxiety (Butterfield, 1964; Feather, 1967; Watson, 1967) as well as to the holding of irrational values (MacDonald & Games, 1972) and indices of adjustment-maladjustment on paper and pencil questionnaires (Hersch & Scheibe, 1967; Wareheim & Foules, 1971). With hospitalized patients, a number of researchers have demonstrated a relationship between externality and severity of psychiatric diagnosis, particularly schizophrenia (Cromwell et al., 1961; Duke & Mullins, 1973; Harrow & Ferrante, 1969; Levenson, 1973; Lettman & DeWolfe, 1972; Palmer, 1971; Shybut, 1968; Smith, Pryer & Distephane, 1971). These investigations are currently being reviewed in detail by Lefcourt (1973). Paradoxically, in regard to general psychopathology, external locus of control beliefs do not

do not seem to occur in selected samples of maladaptive functioning. Goss & Moresco (1970) found alcoholics to be more internal than normal controls although these results are in contrast to Palmer (1971) who reports alcoholics to be external. Also, Berzins & Ross (1973) found black and white hospitalized narcotic addicts to be more internal than white college student controls. Finally, Harrow & Ferrante (1969) report five upper middle class manic patients in a psychiatric hospital to have mean internal scores of 4, significantly lower than other diagnostic groups and lower than reported means for most normal samples. These findings obviously do not fit into the overall schema of externality and psychopathology. However, it should be noted that both of these conduct disorders and the manic symptomotology require some active behavior in contrast to schizophrenia or depression, disorders which are often marked by passivity and withdrawal.

Conceptually, one area of logical relationship to a belief in external control is depression. Obviously a problem of major proportions, depression is considered the most prevalent psychological disorder stretching across both normal and hospitalized persons. On first consideration, it would appear that persons who hold a strong belief that they are responsible for the results of their own behavior would be likely to become depressed when life events do not go well for them. The internal, if you like, on failure to achieve certain goals may blame himself for his situation or lack of ability to succeed. In an article discussing psychopathology from a social learning view point, Phares (1972) has hypothesized that "depressions tend to be associated with people who possess a

strong generalized expectancy that outcomes are their own responsibility." (p. 466). On the other hand, a feeling of powerlessness and inability to influence and control one's life often appears to be a significant concomitant of depressive symptomotology and this feeling of loss of control or power sounds strikingly like a belief in external control. Grinker et al., (1961), Beck (1967), and Mendels (1970) all have comprehensive descriptions of depressive symptoms and all agree that feelings of pessimism, loss of interest, hopelessness, helplessness, and indecision run through most kinds of depression. Specifically, Seligman (1973) following his research with conditioned helplessness in animals also conceptualizes depressives as "passive individuals with negative cognitive sets about the effects of their own actions." (p. 3). Seligman uses learned helplessness to understand depressions in "which the individual is slow to initiate responses, believes himself to be powerless and hopeless, has a negative outlook on the future and which began as a reaction to having lost control over relief of suffering and gratification." On the basis of his work with dogs, Seligman feels that the causes of learned helplessness are not trauma per se but not having control over trauma and goes on to state that "the depressed patient has learned or believes that he cannot control those elements of his life which relieve suffering or bring him gratification." Seligman's dogs have not learned the appropriate contingencies between the possibility of adaptive behavior and escaping painful shock. Indeed if a person holding a belief in external control of reinforcement sees no relationship between his behavior and subsequent reinforcements and additionally

finds himself in aversive conditions, then it is likely that like Seligman's dogs he will submit to whatever trauma surrounds him without being able to learn to cope with despair. While Seligman (1973), Lefcourt (1973)[b], & Hale (1973) have all hypothesized a relationship between depression and externality, little empirical research is available to support this contention. Several investigators report correlations between a belief in external locus of control and the reporting of depressive feelings (Abramovitz, 1969; Warehime & Woodson, 1971; Goss & Morosco, 1970) but a major problem of the correlative studies is an apparent interaction between locus of control scores and assessment item mood levels. Lamont (1972) reports external items, at least on the Rotter scale, to be more depressing in content than internal items. Another serious problem of the correlative studies, actually a problem underlying the bulk of locus of control research, is the assumed unidimensionality of the internal-external variable. As Collins (1973), Levenson (1973), MacDonald (1973) and others have pointed out, there may be a number of factors operating within generalized locus of control expectancy. Some of these, such as a belief that the world is controlled by powerful others, may be more closely related to depression than other factors leading to imprecise prediction across various locus of control assessment instruments. Also, particularly important for research on depression, investigators must note attribution of responsibility for either positive or negative outcomes or both. Depressives, for example, may take responsibility for negative events but little personal credit when things turn out well. Additionally, in spite of the hypothesized relationship

between externality and depression, the unresolved question of the internal who takes responsibility for his failures, perhaps with subsequent negative affect, remains. In 1966, Rotter suggested that while one would expect some relationship between internality and adjustment in our society, one must also be concerned about the extreme internal who having a history of failure must blame himself. Rotter suggests that people at either extreme of the control of reinforcement dimensions are likely to be maladjusted by most definitions. Whatever the relationships may turn out to be, whether external locus of control is related to psychopathology in a linear or curvilinear fashion or indeed whether internality-externality is reflective of other variables such as activity, competence, perceived power, or expectancy of success, the locus of control dimension appears to offer the possibility of significant new research on the etiology and dynamics of maladjusted functioning.

In the first chapter of Power and Innocence (1972), May makes a number of points about the relationship between powerlessness and "madness." He states that a common characteristic of all mental patients is their powerlessness and with it a constant anxiety which is both cause and effect of the impotence (p. 25). He goes on to write in some detail about the meaning of power for the individual in our society and argues that violence arises when persons feel insignificant and unable to see themselves as individuals of self affirmation and strength. Perceived power is a third area that strikes me as being of increasing importance in locus of control research. While Rotter (1966) himself did not appear to consider that internals were more controlling or powerful than externals,

there is an implicit theme running through most of the later research and writing about locus of control that indeed the internal person is more competent and striving than his external counterpart. Interestingly enough, little research is available which is actually an investigation of the degree to which internals use perceived power.

Lefcourt (1973a) does review a number of animal and human studies on perceived control of aversive stimuli and suggests that the phenomena of perceived "control" is a central determinant of the manner in which one responds to these stimuli. Lefcourt goes on to suggest that the belief that one can control his own fate is necessary for man's ability to resist tyranny and to survive and enjoy his life. Lefcourt argues that a belief in internal control of reinforcement, even if an illusion, leads people to live adaptively.

Obviously, research on phenomena of such a general nature as perceived control or power, or perhaps more specifically expectancy of success is difficult but a few studies have recently become available to suggest that internals do use their perceived competence or personal power in ways that lead to different performance outcomes than externals. Goodstadt and Hjelle (1973) had internal and external subjects serve as supervisors to three fictitious workers, one of whom presented a supervisory problem. In dealing with the problem worker, external subjects used significantly more coercive power (e.g., threat of deduction of points, threat of firing) than did internals who also relied more upon personal persuasive powers. The authors explained the results in terms of differential expectancy of successful influence by internals and externals suggesting

that internal's positive expectations of successful influence led them to rely upon personal persuasion. Conversely, the use of more coercive powers by externals is consistent with minimal expectancies of successful influence. These results are similar to one of the only other studies considering locus of control in relation to personal influence. (Usually studies have investigated the susceptibility of the recipient of influence in relation to internal/external beliefs). Phares (1965) found internals more persuasive than externals when asked to attempt to change a recipient's expressed attitude on various issues.

A final study somewhat related to internality-externality and personal control is one described by Ryckman and Sherman (1973). These experimenters asked internal and external subjects to select partners or opponents with superior, equal, or inferior abilities for cooperative or competitive tasks. Results indicated that internals were willing to relinquish much of their personal control over the outcome by selecting superior partners for cooperative ventures but only after they had become thoroughly convinced of their own lack of ability on the task. When they perceived themselves as having good ability, internals selected partners of equal ability for cooperative activities. Externals tended to select inferior-ability partners under the same conditions thus virtually ensuring defeat for their teams.

If internal locus of control is related to perceived power and external beliefs to powerlessness, as Seeman suggested as early as 1959, then further investigation considering how internals and externals use power particularly in relation to other people may

open new doors of understanding cooperative and competitive behavior both in interpersonal and group situations. Already feelings of personal power or helplessness in conjunction with externality have been demonstrated to be influential in achievement situations. Dweck & Repucci (1973) had children persist in tasks after prolonged noncontingent failure and found externals, who took less personal responsibility for outcomes, to exhibit a worsening of performance in contrast to internal children. However, contrary to expectation, Roth & Bootzin (1973) found "helpless college student subjects initiating more controlling behavior over an aversive event following a learned helplessness paradigm and experimentally induced expectancies of external control. Obviously, at the moment there are more questions than answers, but indeed locus of control expectancies appear to be of significant impact in relation to perceived personal power.

Within a fifteen year span, research on internality-externality has given us considerable understanding of the influence of a generalized expectancy about locus of control on a person's behavior. Hopefully, these research efforts will continue not only in regard to normal personality functioning but also across both physical and emotional health related areas. It also seems important at the present time to review the locus of control findings in relation to other similar social-psychological concepts such as Brehm's (1966) psychological reactance, Kelley's (1973) attribution of responsibility and Steiner's (1970) perceived freedom.

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